

In the claims:

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1. (previously presented) A method for routing packets in a multipath network of nodes, each packet having a routing in the network determined by a directed-graph index, comprising:
 - accessing a tag and a directed-graph index from the packet at a first node;
 - producing a normalized tag from the accessed tag by applying a normalizing function to the tag, the normalizing function used substantially throughout the network;
 - determining a second node of a successor set of nodes by using the normalized tag and directed-graph index to access a routing bias table;
 - replacing the tag of the packet with a randomized tag to give an updated packet; and
 - routing the updated packet from the first node to the second node; wherein the directed-graph index determines at least one destination node, and the routing bias table is selected from a plurality of routing bias tables indexed by the first node and the directed-graph index, and the routing bias tables satisfy an acyclic property, and the normalizing function enhances network performance by reducing the number of bits involved in accessing the routing table bias table.
2. (original) The method of claim 1, wherein the second node is a destination node.

3. (original) The method of claim 1 further comprising:
 - accessing a tag of the updated packet at the second node;
 - determining a third node by using the tag of the updated packet to access a second routing bias table;
 - calculating a second updated tag from the tag of the updated packet;
 - replacing the tag of the updated packet with the second updated tag to give a second updated packet; and
 - routing the second updated packet from the second node to the third node.

4. (original) The method of claim 3 wherein the third node is a destination node.

Claims 5-8 (canceled)

9. (previously presented) The method of claim 1, wherein the normalized tag includes evaluating an updating function that is used substantially throughout the network.

10. (original) The method of claim 9, wherein the updating function enhances network performance by randomizing packet routings.

11. (original) The method of claim 10, wherein the routing bias table enhances network performance by allowing local preferences for routings.

Claims 12-14. (canceled)

15. (previously presented) The method of claim 1, wherein,

for two packets having a common entry node, a common directed graph index, and a common entry tag at the common entry node, an arrival sequence of the two packets at the common entry node is equivalent to an arrival sequence of the two packets at a common destination node;:

the common entry node defines an identical entry for the two packets into the network;

the common destination node defines an identical destination for the two packets in the network; and

the common entry tag at the common entry node defines an identical tag provided to each of the two packets before arrival at the common entry node.

16. (original) The method of claim 1, wherein,

for two packets having a common entry node, a common directed-graph-index, and a common entry tag at the common entry node, an arrival sequence of the two packets at the common entry node is equivalent to an arrival sequence of the two packets at an intermediate node;

the common entry node defines an identical entry for the two packets into the network;

the common directed-graph index defines an identical routing for the two packets in the network; and

the common entry tag ant the common entry node defines an identical tag provided to each of the two packets before arrival at the common entry node.

17. (original) The method of claim 16, wherein,

the common entry tag is calculated by operation of a hash function on a selection of bits belonging to either of the two packets.

18. (previously presented) A method for routing flows in a multipath network of nodes, each flow including a sequence of packets, each flow having a flow entry node and a flow directed-graph index, and each packet including a tag having a plurality of bits included in the packet, comprising:

marking packets belonging to a flow with a flow entry tag before entry into the network at a flow entry node; and

changing tags of packets in the network by accessing the tag ϵ_f and a directed-graph index from the packet at a first node, producing a normalized tag from the accessed tag and replacing the tag of the packet with a randomized tag to give an updated packet, so that the packets of a flow receive an identical tag when being routed to an identical node;

wherein, producing a normalized tag from the tag is accomplished by applying a normalizing function to the tag, and determining a second node of a successor set of nodes is accomplished by using the normalized tag and a directed-graph index to access the first routing bias table, and the normalizing function enhances network performance by limiting bit operations in accessing the routing table bias table.

Claims 19-20 (canceled)

21. (previously presented) The method of claim 18, wherein

the routing bias tables are indexed by a first node and a directed-graph index; and

the routing bias tables are indexed by a first node and a directed-graph index; and the routing bias tables satisfy an acyclic property.

22. (canceled)

23. (previously presented) The method of claim 18, wherein producing a normalized tag includes:

evaluating a normalizing function that is used substantially throughout the network.

24. (canceled)

25. (previously presented) The method of claim 18, wherein producing a normalized tag includes evaluating an updating function that is used substantially throughout the network.

26. (original) The method of claim 25, wherein the updating function enhances network performance by randomizing packet routings.

27. (original) The method of claim 26, wherein the routing bias table enhances network performance by allowing local preferences for routings.

28. (previously presented) The method of claim 18, wherein calculating an updated tag includes evaluating an updating function that is used substantially throughout the network.

29. (original) The method of claim 28, wherein the updating function enhances network performance by randomizing packet routings.

30. (original) The method of claim 29, wherein the routing bias table enhances network performance by allowing local preferences for routings.

31. (original) The method of claim 30, wherein the arrival sequence of two packets of a given flow at the common entry node is equivalent to an arrival sequence of the two packets at an intermediate node of the given flow.
32. (original) The method of claim 18, wherein an arrival sequence of two packets at a given flow at the common entry node of the given flow is equivalent to an arrival sequence of the two packets at an intermediate node of the given flow.
33. (original) The method of claim 18, wherein the directed-graph index determines at least one destination node.
34. (original) The method of claim 18, wherein:
the flow entry tag of a flow is calculated by operation of a hash function on a selection of bits belonging to a packet of the flow.